

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): A volume hologram recording material comprising as constituents a polymer matrix having a three-dimensional crosslinking structure, a polymerizable monomer, and a tertiary amine compound, the polymer matrix being formed in the presence of the polymerizable monomer by a polymerization reaction that is different from a polymerization reaction of the polymerizable monomer.
2. (original): The volume hologram recording material according to Claim 1, wherein the polymer matrix having a three-dimensional crosslinking structure has a reactive group that can copolymerize with the polymerizable monomer.
3. (original): The volume hologram recording material according to Claim 2, wherein the polymer matrix reactive group that can copolymerize with the polymerizable monomer is a (meth)acryloyl group.
4. (currently amended): The volume hologram recording material according to ~~any one of Claim 1 to Claim 3~~, wherein the polymer matrix is formed by addition polymerization of a polyol and a polyisocyanate.
5. (currently amended): A volume hologram recording medium for recording, by means of refractive index difference, interference fringes that result from the interference of coherent light, the medium comprising a recording layer having a thickness of 100 μm or greater,

and the recording layer comprising the volume hologram recording material according to ~~any one of Claim 1 to Claim 4.~~

6. (new) The volume hologram recording material according to Claim 1, wherein the polymer matrix having a three-dimensional crosslinking structure has a reactive group that can copolymerize with the polymerizable monomer, the reactive group is a (meth)acryloyl group, and the polymer matrix is formed by addition polymerization of a polyol and a polyisocyanate.

7. (new) The volume hologram recording medium according to Claim 1, wherein it further comprises a catalyst and a photopolymerization initiator.

8. (new) The volume hologram recording medium according to Claim 1, wherein the tertiary amine compound is at least one selected from the group consisting of triethylamine, tributylamine, triethanolamine, N,N-dimethylbenzylamine, methyl dimethylaminobenzoate, and amino (meth)acrylates having a tertiary amino group such as dimethylaminoethyl acrylate and amine (meth)acrylates formed by partially or fully adding a primary or secondary amine to the (meth)acryloyl group of a monofunctional or polyfunctional (meth)acrylate.

9. (new) The volume hologram recording medium according to Claim 1, wherein the polymerizable monomer is (meth)acrylate.

10. (new) A volume hologram recording medium for recording, by means of refractive index difference, interference fringes that result from the interference of coherent light, the medium comprising a recording layer having a thickness of 100 μm or greater, and the recording layer comprising the volume hologram recording material according to Claim 6.